SM3H 2.6 odd answers

1. $\frac{3}{4}, \frac{7}{9}, \frac{4}{5}$

3. linear since adding the same number each time

5. Exponential since multiplying the same number each time

7. $2, \frac{3}{2}, \frac{4}{3}, \frac{5}{4}, \frac{6}{5}, \frac{7}{6}; \frac{101}{100}$

9. $8, 4, 0, -4, -8$

11. $2, 6, 18, 54, 162$

13. $2, -1, 1, 0, 1$

15.

$a)\ 5$

$b)\ 41$

$c)\ a_1 = -4,\ a_n = a_{n-1} + 4 \text{ for } n \geq 2$

17.

$a)\ 11$

$b)\ 92$

$c) a_1 = -7,\ \ a_n = a_{n-1} + 11 \text{ for } n \geq 2$

$d)\ a_n = -7 + 11(n-1) \quad \text{or} \quad a_n = 11n - 18$

19.

$a)\ \frac{1}{2}$

$b) \frac{5}{64}$

$c)\ a_1 = 10,\ a_n = \frac{1}{2} a_{n-1} \text{ for } n \geq 2$

$d)\ a_n = 10 \cdot \left(\frac{1}{2}\right)^{n-1}$

21.

$a)\ -1$

$b)\ 2$

$c)\ a_1 = -2,\ a_n = (-1)a_{n-1} \text{ for } n \geq 2$

$d)\ a_n = -2 \cdot (-1)^{n-1}$

23.

$a_1 = \pm\frac{3}{2}; r = \pm 2; \text{ and } a_n = \pm\frac{3}{2}(\pm 2)^{n-1}$

25. $x = -1$ *extraneous*, $x = \frac{1}{2}$

27. $x = 16$